

REMARKS

Claims 15-18 and 20-28 are presently in the application. Claims 1-14 and 19 have been canceled.

The examiner's indication of allowable subject matter in claims 17 and 24-28 is appreciated.

Claims 15, 16, 18, 19 and 21-23 have been rejected under 35 USC 102(e) as anticipated by Klugl et al (US 6,997,392). Reconsideration of the rejection is requested.

Klugl et al (US 6,997,392) is based on an International application filed after November 29, 2000, and the international application was **not** published in the English language. Therefore, Klugl et al (US 6,997,392) does **not** have a 102(e) date and does **not** qualify as prior art under 35 USC 102(e). See MPEP 706.02(f)(1). It is also pointed out that applicant's U.S. filing date is June 30, 2003, which is prior to the publication date of US 2004/0041037.

However, Klugl's international application (WO 02/31348) was published on April 18, 2002, and is available as a reference under 35 USC 102(b). Therefore, the teachings of Klugl et al (WO 02/31348) will be addressed in response to the examiner's Office action, using US 6,997,392 for an understanding of WO 02/31348.

Claim 15 has been amended to require that "closure of the filling connection (10) is coupled with the motion of the nozzle piston (3) in the opening direction to uncover the injection openings" and that "the filling connection (10) is located between the pressure

booster high-pressure chamber (9) and the injection nozzle control chamber (20).” Support for the added language can be found in the specification at paras. 8 and 24 and in canceled claims 5 and 19.

The examiner reads the “injection nozzle control chamber” on a groove or indentation formed in the upper surface of separating plate 46. Also, the examiner reads the “filling connection” on the passage 31. The passage is disclosed as having a valve 30, which is illustrated as a check valve.

The examiner finds that “the connection 31 is closed by the nozzle piston 6 when the fuel injection nozzle is open.” This particular finding by the examiner is clearly erroneous. The valve 30 in Klugl et al is illustrated as an ordinary check valve. A check valve opens and closes automatically dependent upon the relative pressure on each side of the valve. For example, in Klugl et al, the valve 30 actually opens for filling the high-pressure chamber 9 when the pressure in passage 31 is greater than the pressure in chamber 29, and closes when the pressure in chamber 29 becomes greater than the pressure in line 31. In other words, the valve 30 of Klugl et al is open or closed as a function of the relative pressures in chambers 29 and line 31. In contrast, claim 15 requires that the closure of the filling connection be coupled with the motion of the nozzle piston in the opening direction to uncover the injection openings.

Claim 15 is further distinguished from that taught by Klugl et al by the language “the filling connection (10) is located between the pressure booster high-pressure chamber (9) and

the injection nozzle control chamber (20).” The dictionary definition of the word “between” is - in the space separating two objects. In applicant’s disclosed and claimed invention, the filling connection is located in the space between the pressure booster high-pressure chamber (9) and the injection nozzle control chamber (20).

In contrast, in Klugl et al, there is no space separating the groove or indentation formed in the upper surface of separating plate 46 from the chamber 29. The “filling connection” 31 is located in separating plate 46, which is clearly not located in the space between the chamber 29 and the groove or indentation formed in the upper surface of separating plate 46.

To support a rejection of a claim under 35 U.S.C. 102, it must be shown that each element of the claim is found, either expressly described or under principles of inherency, in a single prior art reference. See Kalman v. Kimberly-Clark Corp., 713 F.2d 760, 772, 218 USPQ 781, 789 (Fed. Cir. 1983), cert. denied, 465 U.S. 1026 (1984).

Klugl et al does not teach a fuel injection system of the type recited in claim 15 in which the closure of the filling connection is coupled with the motion of a nozzle piston in the opening direction to uncover the injection openings or a filling connection located between the pressure booster high-pressure chamber and the injection nozzle control chamber. Accordingly, claim 15 and the claims dependent thereon are not anticipated by the teachings of Klugl et al.

Further, in Klugl et al, the filling connection/line 31 is closed by a valve 30. Thus, in addition to the deficiencies noted above, Klugl et al does not teach that the filling

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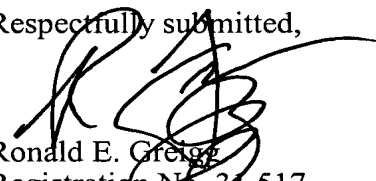
connection/line 31 is closed by the nozzle piston when the fuel injection nozzle is open (claim 16). For this additional reason, Klugl et al does not anticipate claim 16.

Claim 20, which is dependent on claim 15, has been rejected under 35 USC 103(a) as unpatentable over Klugl et al in view of Boecking (US 6,443,129).

Boecking, like Klugl et al, fails to teach a fuel injection system of the type recited in claim 15 in which the closure of the filling connection is coupled with the motion of a nozzle piston in the opening direction to uncover the injection openings or a filling connection located between the pressure booster high-pressure chamber and the injection nozzle control chamber. Therefore, even if it were obvious to combine the teachings of Boecking with the teachings of Klugl et al, one of ordinary skill in the art would not have arrived at the structure required by claim 20.

Entry of the amendment and allowance of the claims are respectfully requested.

Respectfully submitted,


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